



NAG Marine Launches Oil Quality Sensor Through Strategic Partnership with Tan Delta Systems

Virginia Beach, VA - NAG Marine, a leading provider of shipboard automation and fluid control solutions for maritime applications, today announced the launch of the **Tan Delta Oil Quality Sensor** as part of its strategic partnership with Tan Delta Systems, a global innovator in advanced oil condition analysis technologies.

The addition of the Tan Delta Oil Quality Sensor expands NAG Marine's fluid automation portfolio with advanced, real-time **oil quality sensing** capabilities designed to reduce maintenance costs, extend service intervals, and improve operational reliability across maritime and industrial platforms.

Powered by Tan Delta's proprietary Full Spectrum Holistic (FSH™) core technology, the sensor continuously analyzes oil at a molecular level, detecting and tracking degradation, contamination, and wear with 0.01% sensitivity (100 ppm detection). Unlike conventional sensing approaches that monitor limited parameters, the Tan Delta solution provides comprehensive, real-time insight into overall oil health and equipment condition.

Engineered for harsh marine environments and modern vessel control architectures, the Tan Delta Oil Quality Sensor integrates advanced molecular-level analysis with industry-standard communications protocols to support condition-based maintenance strategies:

- Delivers continuous oil quality analysis and temperature measurement
- Detects oxidation, fuel dilution, coolant ingress, and wear-related contamination
- Supports RS485 and CANbus (Modbus, CANopen, J1939) as well as 4–20 mA outputs
- Operates in temperatures from -40°C to +120°C
- Withstands fluid pressures up to 70 bar
- Compatible with mineral, semi-synthetic, and synthetic oils, including diesel and biodiesel fuels

By enabling condition-based maintenance strategies, the system helps operators extend oil service life, reduce unnecessary oil changes, minimize downtime, and support ESG objectives through reduced oil consumption and component replacement.

“This partnership with Tan Delta Systems allows us to bring advanced oil quality sensing technology to our maritime customers,” said Tom Barbour, President of NAG Marine. “Continuous, molecular-level oil analysis delivers actionable insight that strengthens asset protection, improves maintenance planning, and reduces lifecycle costs.”

Constructed from stainless steel AISI304 and IP68-rated when connected, the compact sensor is designed for integration into shipboard machinery, propulsion systems, generators, gearboxes, and other mission-critical equipment operating in harsh marine environments.

Through this collaboration, NAG Marine will provide sales, integration support, and lifecycle service for the Tan Delta Oil Quality Sensor across U.S. Navy, commercial marine, offshore, and industrial markets.



About NAG Marine

NAG Marine delivers shipboard automation, fluid control, and ruggedized electronic solutions for the maritime industry. Serving U.S. Navy and commercial fleets, the company supports mission-critical vessel operations with systems engineered for performance in demanding marine environments. Known for its mission-ready expertise, lifecycle support, and focus on long-term reliability, NAG Marine enhances operational readiness, improves safety, and reduces total cost of ownership. Its portfolio spans autonomous and unmanned systems, naval defense, and offshore industries.

About Tan Delta Systems

Tan Delta Systems develops advanced oil condition analysis technologies that enable highly accurate real-time monitoring of oil and rotating equipment. Its solutions are trusted globally by operators and OEMs to reduce maintenance costs, extend equipment life, and enhance operational efficiency through predictive, data-driven insights.

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